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Exploring the Role of Nutrition Education in Reducing Obesity
Among the U.S. Adult Population

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ABSTRACT

Obesity is a major concern among the low-income groups, yet the problem lacks adequate awareness. It is observed that the prevalence of obesity in the United States is increasing in the U.S., this paper is focused on obtaining information on low-income participants' knowledge about consumption of nutritious food and its contribution in preventing obesity. This paper focuses on identifying the steps that participants have been taking to prevent obesity. To reach the goal of this qualitative study two surveys were designed by the researcher. From the study, it was found that majority of the participants were aware that consumption of nutritious food is important for a healthy lifestyle. But it was also found that they had limited access to nutritious food. Hence, there is a need to implement programs that can provide better resources and awareness for low-income groups.

INTRODUCTION

Obesity is one of the most serious public health problems in the United States. Currently, obese individuals have a higher risk of suffering from chronic diseases, especially among low-income adults. According to the World Health Organization [WHO] (2016), the prevalence of obesity has doubled since 1980 and 2014 with about 600 million obese adults worldwide. One of the leading causes of death in the world was found to be obesity which can be prevented by increased consumption of nutritious food.

BACKGROUND

Studies show that excessive consumption of unhealthy food causes various health problems including chronic diseases such as diabetes and hypertension among the U.S adult population. It is observed that adults who consume unhealthy foods might be at a higher risk for chronic diseases. According to the U.S Department of Health and Human Services, it was found that about 33.8% of U.S adults and 17% of children and adolescents of age 2-5 years are obese.

According to the Centers of Disease Control and Prevention [CDC] (2017), the prevalence of obesity from 2011-2014 is above 26% among adults. From the data collected by the National Health and Nutrition Examination Survey, the prevalence of obesity is higher among women (38.3%) when compared to men (34.0%). There is higher prevalence among the middle-aged adults (40.2%) and older adults (37.5%) when compared to the young adults (32.3%). By race/ethnicity obesity prevalence is higher in non-Hispanic White (34.5%), Hispanic (42.5%), and non-Hispanic black (48.1%) adults. It is observed that the prevalence is lower among the non-Hispanic Asian adults (11.7%) when compared to others. Individuals suffering from obesity spend about \$1500 or more in healthcare expenses every year to treat chronic diseases (Orehek & Vazeou-Nieuwenhuis, 2016).

Research shows that the prevalence of obesity can be reduced by eating nutritious food such as fresh fruits and vegetables. Increased consumption of fruits and vegetables can reduce the risk of chronic diseases and help provide nutrients to the body. Nutritious food should be affordable and accessible (CDC, 2013). It is observed that there is lack

of access to healthy food such as fresh fruits and vegetables, and nutritious food is highly expensive for the low-income groups (Evans et al., 2015).

“Food Deserts” are low-income communities where quality of food, and number of stores in the neighborhood are limited. As a result, there is increased exposure to high calorie foods and fast food restaurants due to limited access to supermarkets. Most of the processed food contain high fat, sugar, and sodium content that can lead to adverse health outcomes. Low-income families have difficulty in maintaining healthy diets due to various factors such as lack of financial resources, supermarkets, transportation, and limited access to healthy food (Walker, Keane, & Burke, 2010).

Furthermore, a qualitative study revealed some barriers for not having access to nutritious foods. Majority of the participants noted that higher cost of fruits and vegetables was a major barrier. Transportation is also one of the factors for older adults who don't own a vehicle as it is difficult for them to travel to other parts of the city. Additionally, some participants buy fruits and vegetables from stores nearby that are less likely to be of good quality. Grocery stores did not have the same variety of food when compared to Farmer's Markets that provide a wide variety of fresh fruits and vegetables. Research shows that there is limited access to farm-produced food when compared to fast food restaurants. Even though eating fast foods results in a higher risk of obesity and chronic diseases, participants still purchased meals from fast food stores which were nearby. Low-income families have mentioned insufficient time and cooking skills as some of the barriers for not being able to cook nutritious food at home. Having

poor cooking abilities is the major factor that led to poor health among participants (Haynes-Maslow, Parsons, Wheeler, & Leone, 2013).

Some studies concluded that home cooked food has better dietary guideline and lower food expenditures with healthy outcomes. A study conducted by the National Health and Nutrition Examination Surveys (NHANES), showed that having frequent home cooked dinners were associated with low consumption of sugar and fat. But consuming foods that were cooked away from home such as fast food had more fat and sodium content which resulted in obesity and weight gain. According to the U.S. Department of Agriculture guidelines, 20% of the adults fail to consume vegetables, whole grains, and low fat dairy products. Recent literature shows that high quality diet is expensive for low-income families.

Another study conducted in Seattle on obesity focused on analyzing data related to buying food, eating behaviors, dietary pattern, and health. The study included Latino Americans, aged between 21-35 years who bought food for their families. The total number of participants (712) who were eligible for the study also provided verbal consent and were invited to meet either at the research site or close to their residence. Participants were asked questions such as “how many times do you cook food in past 7 days”? “how many times do you eat food outside every week”? The study results showed that 70% of the low socioeconomic groups were female participants, 60% of the population aged 50 years and above, 85.6% were white, 56.8% were married, and 71% had household income. About 50.6% cooked dinner at home six or more times a week and 34.3% cooked food four to five times a week, and 15.1% cooked rarely. The study

showed that cooking at home was a cheaper and healthier alternative to eating outside. Cooking food at home can be an effective strategy to improving diet for which ingredients such as fresh veggies could also be bought at affordable price. This study recommends increasing awareness on nutrition and cooking skills for low income families and educate them on the same which would result in better health outcomes (Tiwari et al., 2017).

SCOPE OF THE PROJECT

The Zuckerberg San Francisco General Hospital (ZSFGH): Community Wellness Program promotes a healthy lifestyle among diverse populations living in San Francisco. The Community Wellness Program (CWP) implemented strategies such as health education and advocacy to establish healthy lifestyles. The goal of the Community Wellness Center is to provide and promote wellness programs and services for culturally diverse populations including the staff, patients, and other clients.

The Community Wellness Program had hosted its Annual Summer Fest on June 16th, 2017. The theme for the Summer Fest was “Connecting People to Wellness and Community.” The goal of this theme was to promote various health aspects at different levels. The Summer Fest visitors were encouraged to interact with the various organizations at the event. These visitors were from different parts of the U.S, and were asked to use their passports to connect with the stalls put up for their region in the fest and discuss about these wellness programs. Many attendees liked the idea and would return to the welcome desk with giveaways such as food materials, and reusable bags that they received from these stalls. They also received raffle tickets and passes for the

photo booth. Summer Fest gave the opportunity to interact with and learn about healthy resources from the organizers. Attendees could connect better by participating in various interactive activities on healthy food options, and healthy giveaways. This event also helped the ZSFGH staff to connect better with the community and its members to create an awareness in a fun-filled manner.

I conducted two surveys during this event: The Summer Fest Participation Survey and Farmers Market Survey. The goal of Summer Fest Participation survey was to measure awareness and practice healthy eating habits among the participants. These surveys were designed by me, and visitors were encouraged to participate in the survey by incentivizing them with free reusable bags in exchange for their time.

The Nutrition and Cooking Demonstration Program is one of the programs offered by the Community Wellness Center. Demonstrations on cooking skills were offered in this program where participants learned new food recipes. Participants who got to see these demonstrations were also provided with fresh produce. The chef cooked different recipes that are affordable and healthy to eat. Additionally, the chef had also given some tips about eating on time, ways to read food labels, and cooking recipes.

The Community Wellness Center provided information on nutritious food through programs such as Garden Giveaway program. This program harvests and distributes fresh vegetables and herbs grown in the hospital garden. Working with the gardeners gave me an opportunity to harvest and distribute fresh vegetables from the garden. The garden giveaway program teaches participants how to effectively use organic produce.

POPULATION HEALTH IMPACT: Findings and Significance

The events conducted in Summer Fest such as Nutrition and Cooking Demonstration Program and Garden Giveaway Program had a positive impact on low-income groups, as proved by significant outcomes such as healthy eating habits, increased cooking skills, better knowledge on the importance of having nutritious food such organic and farm produced. Participants in the survey benefitted from these events that provided them with giveaways like fresh farm produce and organic ingredients. The surveys were also constructive for its participants by guiding them in resourcing markets that has organic and fresh produced food. Thus, the significance of these studies was to enable the low-socioeconomic groups to gain insight on fresh farm-produced food and positive health outcomes.

Quantitative aspects of the surveys

Number of participants:

Summer Fest Survey	223
Farmer's Market Survey	418

Demographics of the Summer Fest Participants

Gender:

Male	9%
Female	71%
Transgender	0%
No response	20%

Age:

Under 18	2%
18-40	25%
41-65	46%
65+	17%
No response	10%

Demographics:

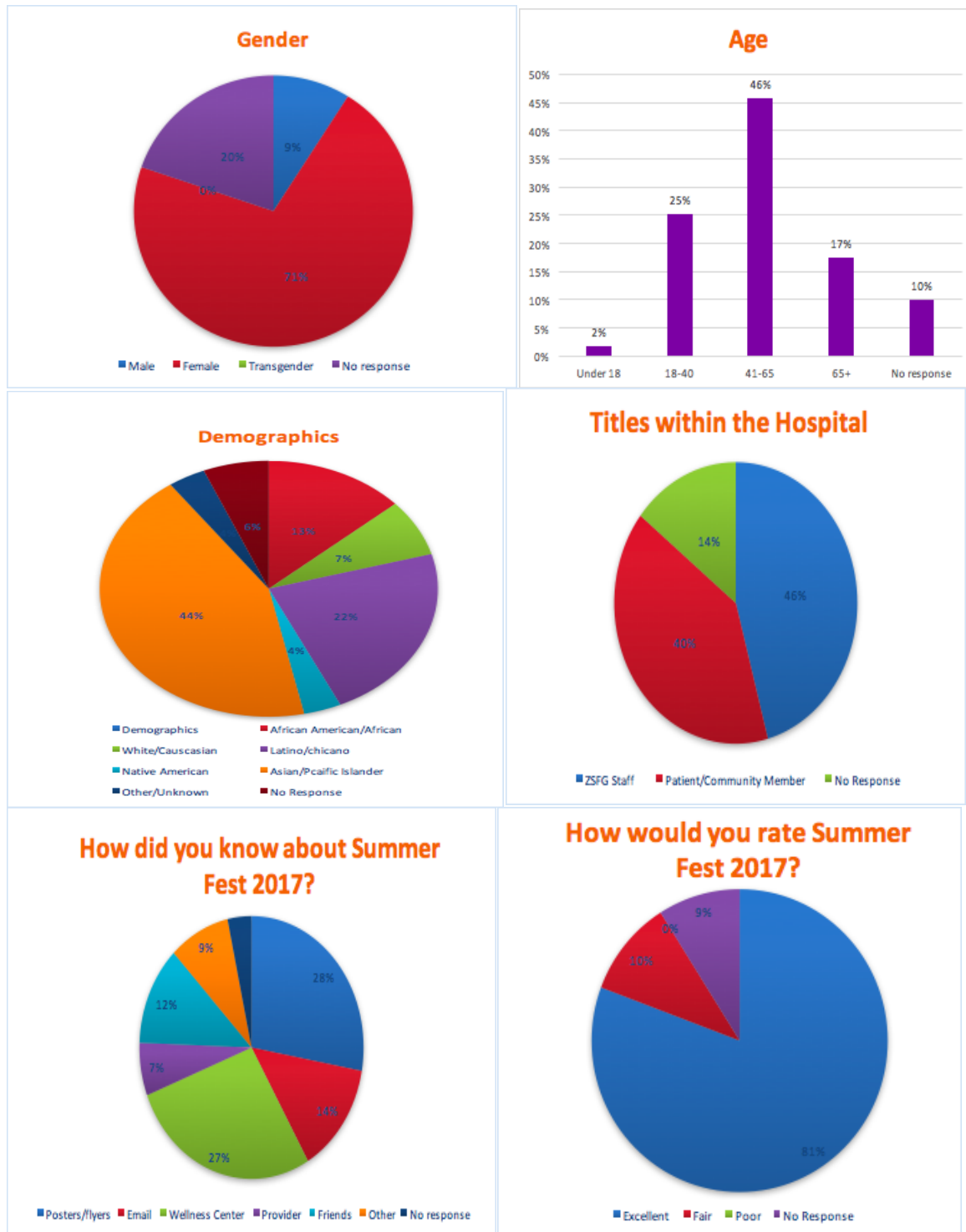
African American/African	13%
White/Caucasian	7%
Latino/Chicano	22%
Native American	4%
Asian/Pacific Islander	43%
Other/Unknown	4%
No response	6%

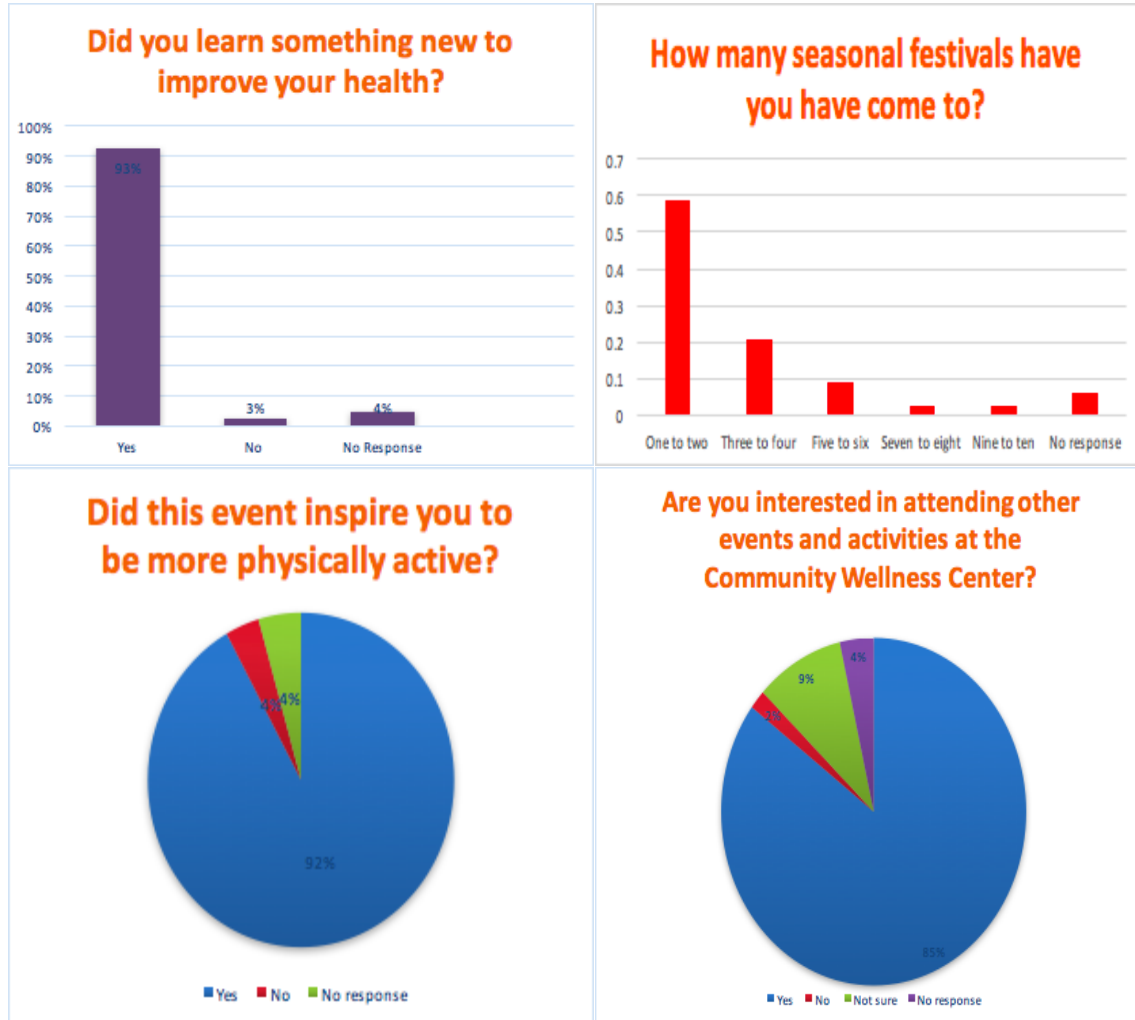
According to the survey results, most of the people found out about the Summer Fest through Poster/Flyers (28%), and through the Community Wellness Center (27%).

Participants rated the event as Excellent (81%), and fair (10%).

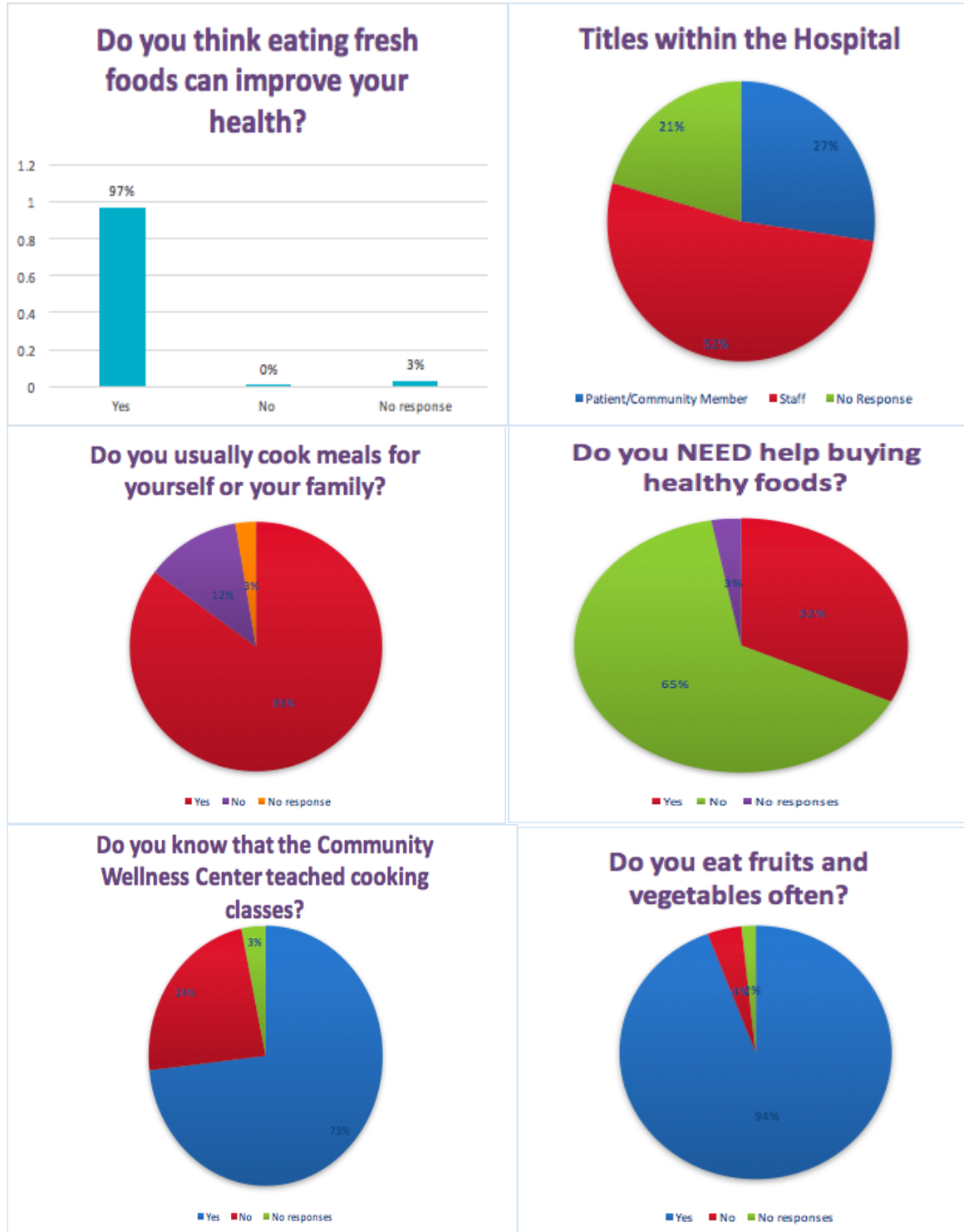
The results from Farmer's Market Survey revealed that 94% of participants consumed fresh fruits and vegetables, 97% believed eating fresh food improves their health, 85% cook for their family and friends, and 73% attended cooking demonstration classes at the Community Wellness Center.

SUMMER FEST PARTICIPATION SURVEY





FARMERS MARKET SURVEY





CONCLUSION

In the U.S., illnesses related to weight gain are increasing everyday due to high intake of fat, sugar, and sodium content, thus resulting high rates of obesity. Since obesity is commonly seen among all age groups, there is a need for more awareness and insight on food intake that would help people in preventing such health issues. Obesity not only affects physical appearance, but further plays a major role in chronic diseases such as diabetes, and hypertension which might lead to massive heart attacks. Families from low-income groups who do not have an exposure to such important aspects of health and become more vulnerable to obesity. Programs through wellness centers would be a place for low-income populations to have greater opportunities to learn and access health services. These services include resourcing them to markets which have organic and farm produce at affordable prices.

It can be concluded that to reduce the prevalence of obesity, it is important for public health professionals to implement programs that can accommodate healthy lifestyles which is rooted in having nutritious food. Implementing community Wellness Programs

such as “Nutrition and Cooking Demonstration Program” and “Garden Giveaway Program” is highly necessary to increase awareness among the low-income families.

The Summer Fest conducted by ZSFG Community Wellness Center had a positive impact on the participants’ knowledge about the importance of nutritious food that can have positive health outcomes. Obesity is one of the most commonly seen problems when compared to all other health issues, and the participants who attended the Summer Fest profited from acquiring insight on root causes and having nutritious food as one of the best ways to prevent obesity.

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APPENDICES

Summer Fest 2017 Participant Survey

Gender: ☐ Male ☐ Female ☐ Transgender

Age: ☐ Under 18 ☐ 18-40 ☐ 41-65 ☐ 65+

Demographics:

☐ African American/African ☐ White/Caucasian ☐ Latino/Chicano
☐ Native American ☐ Asian/Pacific Islander ☐ Other/Unknown

Questions:

1. **Are you:** ☐ Staff ☐ Patient /Community Member

2. **How did you find out about Summer Fest 2016?**

☐ Poster/flyers ☐ Email ☐ Wellness Center ☐ Posters/flyers

☐ Email ☐ Provider ☐ Friends ☐ Other: _____

3. **How many seasonal festivals have you come to?**

☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10

4. **How would you rate the Summer Fest 2017 in general?**

☐ Excellent ☐ Fair ☐ Poor

5. **Did you learn something new to improve your health?**

☐ Yes ☐ No

6. **Did this event inspire you to be more physically active?**

☐ Yes ☐ No

7. **Are you interested in attending other events and activities at the Community Wellness Center?**

☐ Yes ☐ No ☐ Not Sure

Farmer's Market Survey

Please take this questionnaire before getting free fruits and vegetables: *(Circle one answer per question)*

You are a: ☐ Patient/Community Member ☐ Staff

1. **Do you think eating fresh foods can improve your health?** ☐ Yes ☐ No
2. **Do you eat fruits and vegetables often?** ☐ Yes ☐ No
3. **Do you usually cook meals for yourself or your family/friends?** ☐ Yes ☐ No
4. **Do you NEED help buying healthy foods?** ☐ Yes ☐ No
5. **Do you know that the Community Wellness Center teaches healthy cooking classes?** ☐ Yes ☐ No
6. **Are you interested in attending healthy cooking classes at the Community Wellness Center?** ☐ Yes ☐ No

If you want more information on cooking classes, please provide

Name: _____ Phone: _____

MPH Program Competency Inventory

USF MPH Competencies	Notes
1. Assess, monitor, and review the health status of populations and their related determinants of health and illness.	Researched at ZSFG Community Wellness Center on the importance of nutritious food among the low-income groups.
2. Demonstrate the ability to utilize the proper statistical and epidemiologic tools to assess community needs and program outcomes.	Compiled a list of Community Wellness Center needs for the ZSFG patients.
3. Identify and prioritize the key dimensions of a public health problem by critically assessing public health literature utilizing both quantitative and qualitative sources.	Conducted academic literature review on the role of nutrition education in reducing obesity among U.S adult population.
4. Specify approaches for assessing, preventing, and controlling environmental hazards that pose risks to human health and safety.	Conducted two surveys on Farmers Market and Participants in the Summer Fest that was conducted by the ZSFG Community Wellness Center.

5. Apply theoretical constructs of social change, health behavior and social justice in planning community interventions.	Conducted surveys to gain insights about the importance of nutritious food and constraints in having healthy food among the low-income groups.
6. Articulate the relationship between health care delivery and financing, public health systems, and public policy.	Researched on existing communities and implemented interventions such as nutrition education and advocacy.
7. Apply evidence-based principles to the process of program planning, development, budgeting, management, and evaluation in public health organizations and initiatives.	Conducted program evaluations for surveys that were designed during the Summer Fest.
8. Demonstrate leadership abilities as collaborators and coordinators of evidence based public health projects.	Collaborated with staff and team members to research, collect data and ensure program sustainability.
9. Identify and apply ethical, moral, and legal principles in all aspects of public health practice.	Ensured that participants complete the liability forms before they sign up for Work on Wellness (WOW) classes at the Community Wellness Center.

10. Develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served.	Acknowledged and demonstrated the need for healthy lifestyles among the ZSFG patients and developed free, culturally competent services for the low-income communities.
11. Effectively communicate public health messages to a variety of audiences from professionals to the general public.	Engaged in health education outreach among the low-income groups affiliated to the ZSFG Community Wellness Center.